

# California Water Plan Overview

*Integration of Update 2013  
Groundwater Content  
Enhancements*

**Groundwater Caucus  
May 19, 2011**

## California **Water Plan** Highlights

INTEGRATED WATER MANAGEMENT



Update 2009 • Department of Water Resources

# Water Plan Update 2009

*A Foundation for  
Update 2013 Groundwater Content  
Enhancements*

# Update 2009 – State's Blueprint Integrated Water Management & Sustainability

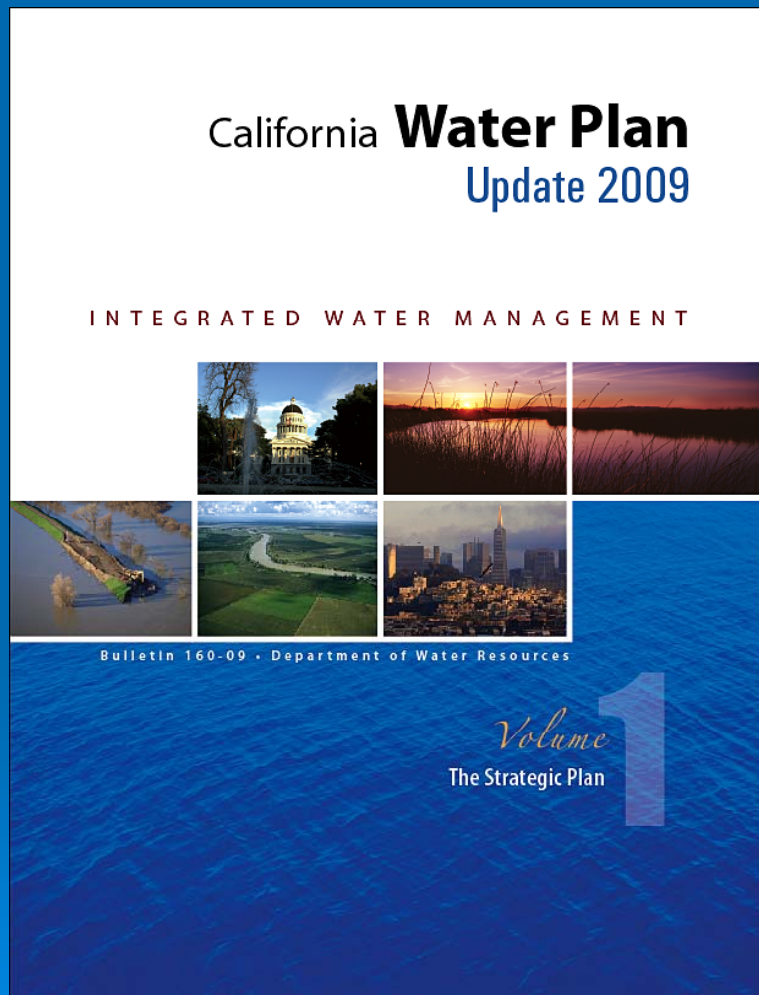


# Project Organization and Public Process California Water Plan Update 2009





# Water Plan Update 2009 Organization



- Water Plan Highlights
  - CD - Entire Water Plan
  - CD - Tribal Water Summit Proceedings
- Vol. 1 > The Strategic Plan
- Vol. 2 > 27 Resource Management Strategies
- Vol. 3 > 12 Regional Reports
- Vol. 4 > Reference Guide (120+ articles)
- Vol. 5 > Technical Guide (Online documentation)

# Water Plan Update 2013

## *Integration of Update 2013 Groundwater Content Enhancements*

# Foundational Components

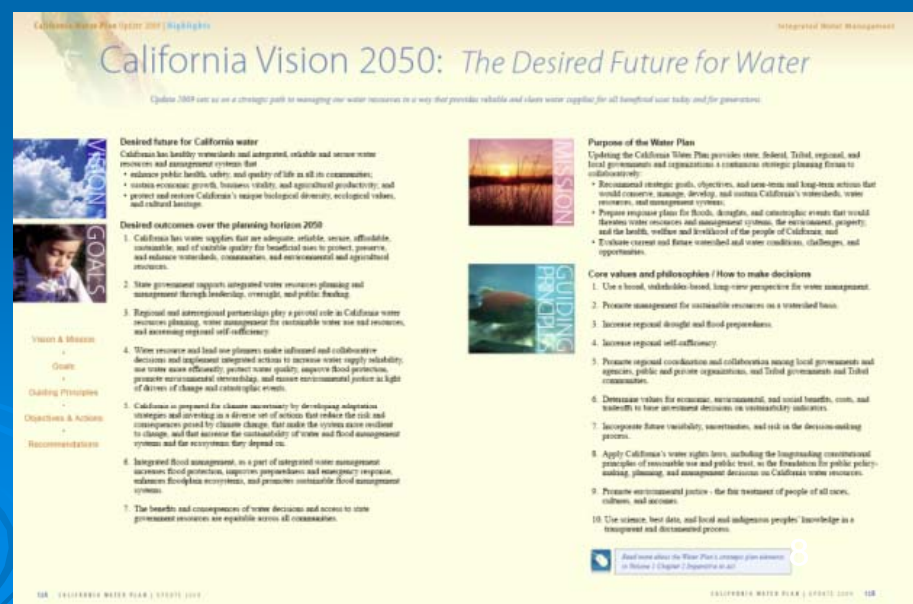
***Foundational Component*** – An Update 2009 feature with sufficient value to retain for Update 2013

- ✿ Strategic Plan
- ✿ Water Balances and Portfolios
- ✿ Regional Reports
- ✿ Future Scenarios
- ✿ Resource Management Strategies
- ✿ Companion State Plans
- ✿ Reference Guide
- ✿ Technical Guide
- ✿ Assumptions and Estimates Report

# Strategic Plan

## Relevance to Groundwater Content Enhancements

- Update 2005 Strategic Plan informed Proposition 84 language
- Update 2009 Strategic Plan informed Update 2013 groundwater content enhancement work plan and priorities
- Both will evolve into the basis for Update 2013 Groundwater work plan, analysis and recommendations
- High-level groundwater policy recommendations will be published in Update 2013 Strategic Plan

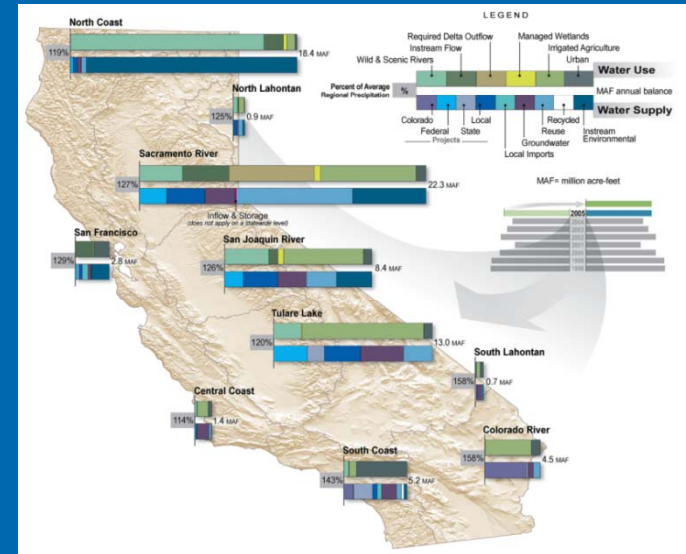




# Water Portfolios

## Relevance to Groundwater Content Enhancements

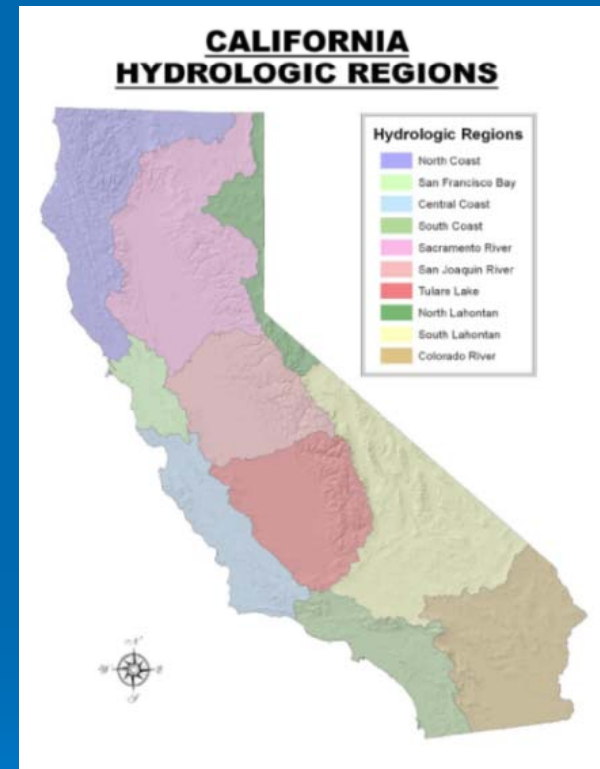
- Context for historical water use and corresponding supply sources (*Groundwater is largely a balancing term due to lack of data*)
- Articulates statewide *and* regional water use and supply sources
- Used to identify trends, challenges and opportunities at the statewide and regional scales
- Update 2013 water portfolios will include groundwater data and computation enhancements; including change in storage



# *Regional Reports*

## Relevance to Groundwater Content Enhancements

- ✿ Articulation of information, data, challenges, opportunities and regional resource management objectives
- ✿ Groundwater conditions, challenges, proposals and priorities will be described in regional reports
- ✿ Ensure regionally relevant solutions
- ✿ Case study will be published in corresponding Regional Report

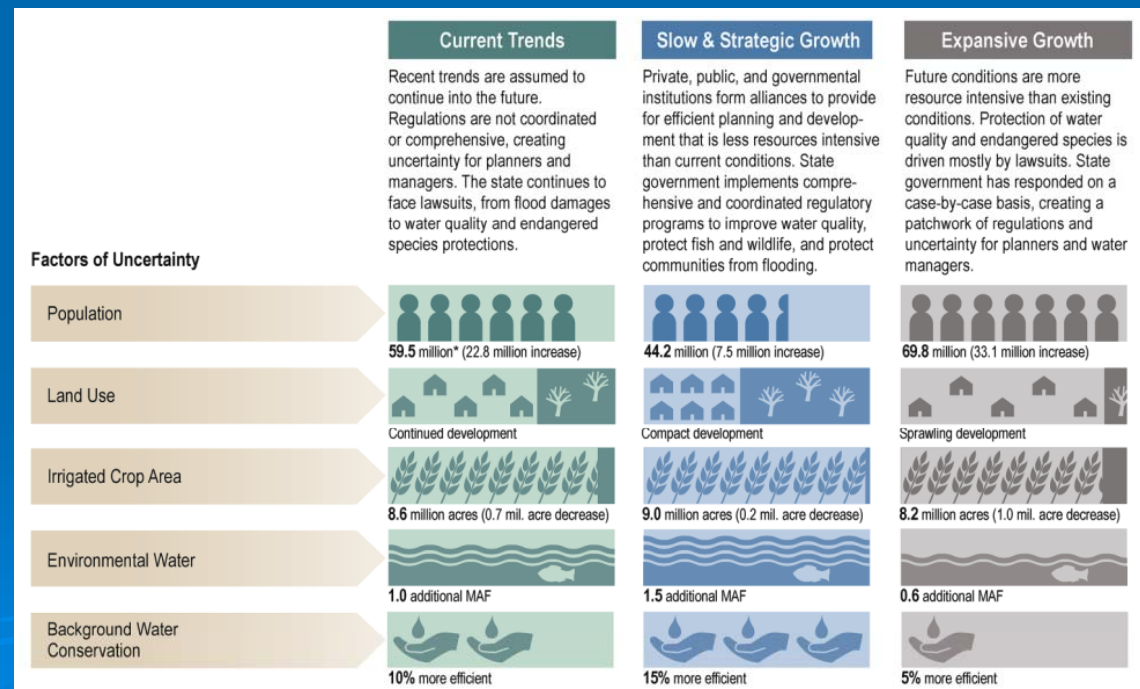


# Water Plan Update *Future Scenarios*

## Relevance to Groundwater Content Enhancements

- Three plausible sets of future conditions that can affect the necessity for (and performance of) management strategies

- Used to assess trade-offs and resiliency of resource management strategy packages to guide groundwater action and policy recommendations



# Water Plan Update *Resource Management Strategies* Relevance to Groundwater Content Enhancements

- Many groundwater policy and action recommendations will be drawn from menu of Resource Management Strategies
  - Update 2009 strategies included conjunctive use, groundwater storage, recharge area protection, aquifer remediation, etc

- One source of information for estimating groundwater management strategy costs

California Water Plan | Update 2009

Integrated Water Management

# Resource Management Strategies:

## A Range of Choices

Integrated water management undertakes water and flood management at all fronts and on many levels—regionally and statewide, for multiple uses and benefits, for sustaining watersheds, water uses, and water and flood management systems, while weighing the risks of uncertain futures.

The 27 resource management strategies presented here provide a range of choices and are the building blocks for this approach.

The strategies are grouped by their intended outcome, and the potential benefits and implementation cost are presented for each strategy.

Potential Strategy Benefits			
Potential Water Supply Benefit Water - Reduced WY/year	Increased Demand Reduction Preparation	Quarantine Risk & Eviction Evacuation	Energy Benefits Environmental Benefits Recreation/Occupational Opportunities Improved Public Health Outcomes Improved Quality of Life

### Reduce Water Demand

Water conservation has become a viable long-term supply option because it saves considerable capital and operating costs for utilities and consumers, avoids environmental degradation, and creates multiple benefits.

Strategy	MWY/year <sup>a</sup>	Potential Strategy Benefits	Estimated Cost by MW (\$Billion) <sup>b</sup>
Agricultural Water Use Efficiency	gph 0.1-0.8 <sup>c</sup>	[Icons]	0.3-4.0
Urban Water Use Efficiency	gph 1.2-3.1	[Icons]	2.5-6.0

### Improve Operational Efficiency & Transfers

California's water system responds to our need to move water from where it occurs to where it will be used.

Strategy	MWY/year <sup>a</sup>	Potential Strategy Benefits	Estimated Cost by MW (\$Billion) <sup>b</sup>
Conveyance—Delta	gph 0.1-0.6	[Icons]	1.2-17.2
Conveyance—Regional/Local	[Icon]	[Icons]	[Icon]
System Reoperation	[Icon]	[Icons]	[Icon]
Water Transfers	[Icon]	[Icons]	[Icon]

### Increase Water Supply

California's communities are finding innovative ways to generate new supplies.

Strategy	MWY/year <sup>a</sup>	Potential Strategy Benefits	Estimated Cost by MW (\$Billion) <sup>b</sup>
Conjunctive Management & Groundwater Storage	gph 0.5-2.0	[Icons]	[Icon]
Dewatering — Brackish & Seawater	gph 0.3-0.4	[Icons]	0.9-2.9
Precipitation Enhancement	gph 0.3-0.6	[Icons]	0.2
Recycled Municipal Water	gph 0.9-1.4	[Icons]	6.0-8.0
Surface Storage—CALFEDP	gph 0.1-1.1	[Icons]	0.2-7.8
Surface Storage—Regional/COL (under development)	[Icon]	[Icons]	[Icon]

1. Additional information is found in Volume 2.

2. Value is Net Water to account for water loss among agricultural water users.

3. Reflects cost allocation of annual water benefit which is not the total cost or the project.

As California changes, local agencies and governments continue to use different methods for managing water resources. Growing populations, changing regulations, and evolving public attitudes and values are a few conditions that are influencing water decisions. No single response package will work for all areas of California. Facing an uncertain future, regions need to invest in an appropriate mix of strategies based on integrated regional water management plans that are diversified, satisfy regional state needs, meet multiple resource objectives, include public input, address environmental justice, mitigate impacts, protect public trust assets, and are affordable.

### Improve Water Quality

Improved water quality can directly improve the health of Californians and our ecosystem.

Strategy	MWY/year <sup>a</sup>	Potential Strategy Benefits	Estimated Cost by MW (\$Billion) <sup>b</sup>
Drinking Water Treatment and Distribution	[Icon]	[Icons]	1.4-19.2
Groundwater/Aquifer Remediation	[Icon]	[Icons]	20.0
Matching Quality to Use	[Icon]	[Icons]	0.1
Filtration Prevention	[Icon]	[Icons]	71.0
Gill and Siltation Management	[Icon]	[Icons]	>10.0
Urban Runoff Management	[Icon]	[Icons]	[Icon]

### Practice Resource Stewardship

We must protect other resources as we make water supplies available for other beneficial uses.

Strategy	MWY/year <sup>a</sup>	Potential Strategy Benefits	Estimated Cost by MW (\$Billion) <sup>b</sup>
Agricultural Lands Stewardship	[Icon]	[Icons]	5.3
Economic Incentives (Leases, Grants, Water Pricing)	[Icon]	[Icons]	[Icon]
Ecosystem Restoration	[Icon]	[Icons]	[Icon]
Forest Management*	gph 0.1-0.4	[Icons]	0.3-0.8
Land Use Planning and Management	[Icon]	[Icons]	[Icon]
Ranchland Area Protection	[Icon]	[Icons]	[Icon]
Water-dependent Recreation	[Icon]	[Icons]	[Icon]
Watershed Management	[Icon]	[Icons]	0.5-3.6

### Improve Flood Management

Strategy	MWY/year <sup>a</sup>	Potential Strategy Benefits	Estimated Cost by MW (\$Billion) <sup>b</sup>
Flood Risk Management	[Icon]	[Icons]	[Icon]

4. Numbers are for Medium Restoration only.

Flood descriptions of 27 resource management strategies in Volume 2

18 CALIFORNIA WATER PLAN | UPDATE 2009

CALIFORNIA WATER PLAN | UPDATE 2009 19

# *State and Federal Companion Plans*

## Relevance to Groundwater Content Enhancements

- ✿ Coordination and consolidation of state actions and policies that relate to groundwater management





# *Finance Planning*

## Relevance to Groundwater Content Enhancements

- Update 2013 will include a new financial planning feature that will be informed by the groundwater content enhancements



## ➤ Integrated Water Management

- Expand on water quality
- Continue integrated flood mgmt
- Expand on groundwater
- Add near coastal resources

## ➤ Regional Planning

- Expand on land use & water mgmt nexus
- Incorporate UWMP content
- Expand economic & financial planning

## ➤ Data, Metrics & Analysis

- Improve data mgmt & sharing
- Enhance inter-disciplinary technical analyses
- Develop metrics & sustainability indicators
- Develop CA Water Mgmt Progress Report

## ➤ Adaptive Management

- Revisit environmental water concept
- Use Living Document approach
- Use multiple & shorter planning horizons
- Identify outdated water codes & laws

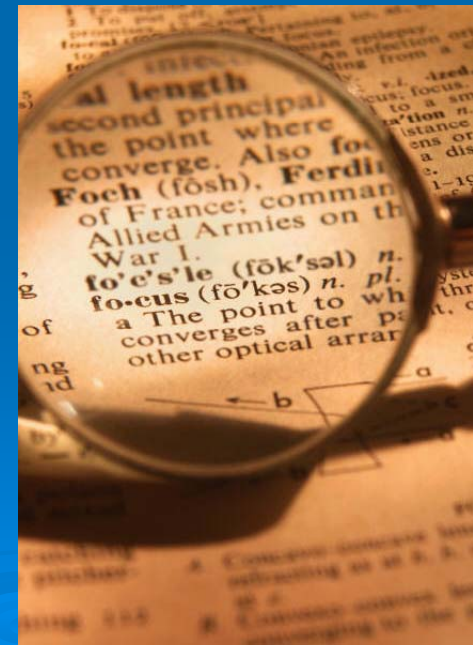
# Content Enhancements



# California Water Plan Update 2013

## *Early FOCUS Topics / Caucuses*

- ✿ Update 2013 Finance Planning
- ✿ Reinventing Regional Reports
- ✿ Groundwater
- ✿ Statewide Integrated Flood Planning
- ✿ New Water Technology / R&D

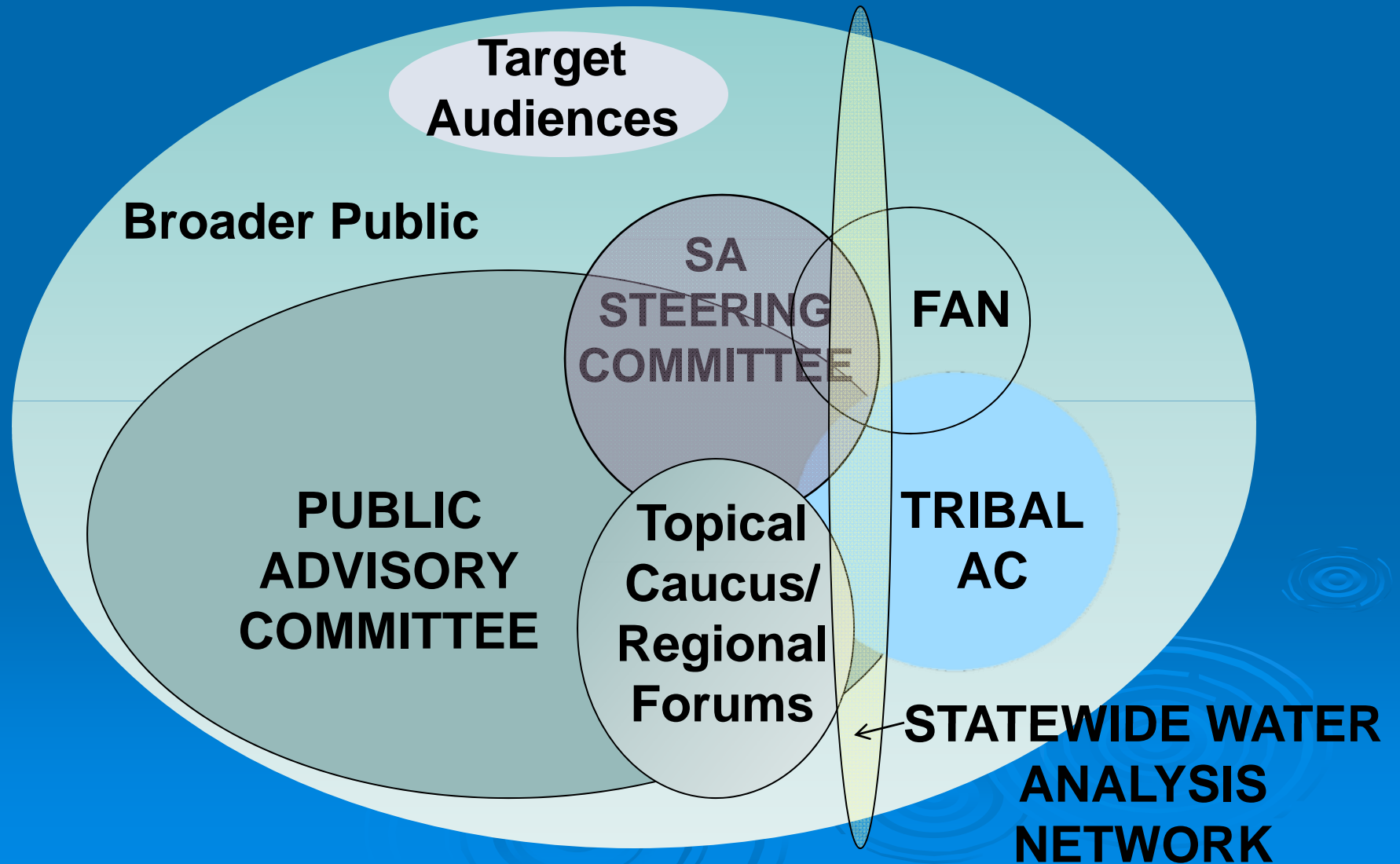


# Update 2013 Outreach Venues

- ✿ State Agency Steering Committee *(30 State Agencies)*
- ✿ Federal Agency Network
- ✿ Tribal Advisory Committee
- ✿ Public Advisory Committee
- ✿ Regional Forums
- ✿ Topic-based Caucuses
- ✿ SWAN - Statewide Water Analysis Network
- ✿ Annual Plenary Meetings



# Update 2013 Collaboration Venues





# Ways to Access Water Plan Information

- Visit the *Water Plan Web Portal*  
[www.waterplan.water.ca.gov](http://www.waterplan.water.ca.gov)



- Subscribe to *Water Plan eNews*  
a weekly electronic newsletter  
[www.waterplan.water.ca.gov/enews](http://www.waterplan.water.ca.gov/enews)